

# Work Order ID 46409 - 3

June 26, 2009 11:50:47 AM

SPW



Page 1

Item ID: D6101-001

Revision ID: A

Item Name: Saddle Billet

Start Date: 15/07/2009 Start Qty: 300.00

Required Date: 03/08/2009 Req'd Qty: 300.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:



Run Start



Stop



Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D6101

Rev A

100

0.00



Purchasing

Purchasing

PURCHASING

Memo

0.00

Issue P/O: 8393 a)Description: Alluminum billet b) 6.00" x 6.250" x 2.00" thick c) Tolerance on length are +0.025"/-0.000" A: +0.008" d) Grain direction along 6.00" length e) Material: 7075-T7351 (QQ-A-250/12)

f)Material certification required

110



Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Memo

0.00

Ensure material certification is attached

Rec'd 9/9/24 (50)

# Work Order ID 46409

June 26, 2009 11:50:47 AM



Page 2

Item ID: D6101-001

Accept



Setup Start



Revision ID: A

Stop



Item Name: Saddle Billet

Start Date: 15/07/2009 Start Qty: 300.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 300.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

120

QC6- Inspect dimensions to drawing

0.00



QC

Quality Control

Memo

Ensure Material certification comply to Dwg D

0.00

2> S 02/02/24

COCTH  
2 (50) p

130

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Packaging

Memo

0.00

C209/09/25 (50)

140

QC21- Final Inspection - Work Order Release

0.00



QC

Quality Control

Memo

0.00

09/09/28 HJ  
MF 09-09-26

# Picklist Print

June 26, 2009 11:29:29 AM

Page 1

Work Order ID: 46409

Parent Item: D6101-001RevA

Parent Item Name: Saddle Billet

Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 300.00

Required Qty: 300.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6101-001PRevA		Purchased	No			110	Each	0.0000	300.0000			



7075-T7351 2X6X6.25



*C. G. S. / 24* *50*



Date: Wednesday, 11/03/2009 9:53:15 AM  
 User: Chantal Lavoie

## Process Sheet

SPLIT 2

Customer : CU-DAR001 Dart Helicopters Services  
 Job Number : 46409  
 Estimate Number : 10032  
 P.O. Number :  
 This Issue : 11/03/2009 S.O. No. :  
 Prsht Rev. : NC  
 First Issue : 11 Type : PURCHASED PARTS  
 Previous Run : 41959  
 Written By :  
 Checked & Approved By : C209103111  
 Comment : Est. B: 01.05.04 New Issue EC

Drawing Name : SADDLE BILLET  
 Part Number : D6101001  
 Drawing Number : D6101 REV A  
 Project Number : N/A  
 Drawing Revision : A  
 Material :  
 Due Date : 18/09/2009

Qty: 300 Um: Each

## Additional Product

Job Number:

Seq. #: Machine Or Operation: Description :

1.0 ✓ PG

PURCHASING

Comment: PURCHASING

Issue P/O: 8393

a) Description: Aluminum billet

b) 6.00" x 6.250" x 2.00" thick

c) Tolerance on length are +0.025"/-0.000" AE +/- 0.000"

d) Grain direction along 6.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

2.0 ✓

D6101001P

7075-T7351 2X6X6.25

Comment: Qty.: 1.0000 Each(s)/Unit Total: 300.0000 Each(s)  
 7075-T7351 2X6X6.25

3.0 ✓

PACKAGING 1

PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

4.0 ✓

QC6

DIMENSIONAL CHECK

Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D

Date: Wednesday, 11/03/2009 9:53:15 AM  
User: Chantal Lavoie

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET

Job Number: 46409

Part Number: D6101001

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion

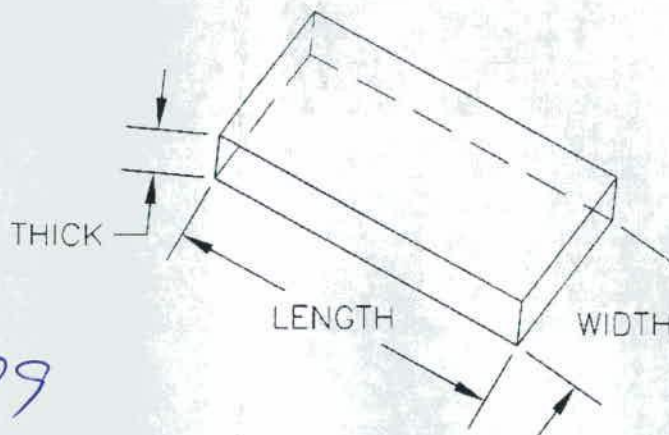






DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>AS</i>	DRAWING NO. D6101	Rev. A SHEET 1 OF 1
DATE 01.03.30		TITLE SADDLE BILLET, 7075	SCALE NTS
A	01.03.30	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING



RELEASED  
01.04.23

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 346409

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length

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**Castle Metals®**

A. M. Castle &amp; Co.

**PACKING SLIP**

Page 1 of 1

Pack Slip No:4070328

<b>Ship From:</b> Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 24-SEP-09	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid		<b>Carrier</b> LOCAL_FLEET	<b>BOL No</b> 69346-5	<b>Delivery No</b> 4070328	

<b>Shipment Details</b>	<b>Final Destination Branch - MON</b>
-------------------------	---------------------------------------

<b>Order No</b> 273463	<b>Line No</b> 1	<b>Item No</b> 6857.MO	<b>Description</b> 2.0000.PL.7075.T7351.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6.25 IN ( + .0310/- .0000 IN) X 6 IN ( + .0310/- .0000 IN)			
<b>Purchase Order No</b> 8393		<b>Part Number</b> YOUR ITEM NUMBER: GRAIN TO RUN ALONG 6"		<b>Ordered Qty</b> 50 PCS	<b>Invoice Qty</b> 50 PCS	<b>Backorder Qty</b>
<b>Details</b>						
<b>Mill</b>	<b>Heat Number</b> 443773A7	<b>Mech Id</b>	<b>PCS</b> 50	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty (LBS)</b> 378.95

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

This material has been received and inspected by:	Date:
---	-------



## SHIP TO:

CASTLE METALS AEROSPACE  
20826 68TH AVE. SOUTH  
KENT, WA 98032

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## SOLD TO:

AM CASTLE & CO- SOLD TO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

## CERTIFIED TEST REPORT

Serial Number  
4144547

CUSTOMER PO NUMBER: 45-25041		WORK PACKAGE:		CUSTOMER PART NUMBER: 6857 A97075-80		SHIP RUN/LOAD ID: 101393/10		GOV'T CONTRACT NUMBER:		
KAISER ORDER NO: 1073740		LINE ITEM: 1	SHIP DATE: 16-OCT-2008		ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: MILL FINISH PLATE		
WEIGHT SHIPPED: 5800 LB		QUANTITY: 4 PCS EST.		B/L NUMBER: 2019871		GAUGE: 2.0000 IN		WIDTH: 48.500 IN		LENGTH: 144.500 IN

## Certified Specifications

AMS 4078/RevG  
ASTM B 209/Rev07  
BSS 7055/RevA  
DPS 4.713/RevAH  
GSS16100/RevG

AMS-QQ-A-250/12  
ASTM B 594/Rev06  
CMMP 025/RevR  
EAC MS1011/RevE  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 006/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

## Test Results

Lot: 443773A7 Cast 186

Drop 10

Ingot 2

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	72.7 : 73.5 (501 : 507)	61.7 : 62.7 (425 : 432)	12.2 : 12.4

(ASTM E1004)

Conductivity %IACS :	41.1 Min	41.4 Max
(MS/M) :	23.8 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.08	0.16	1.4	0.02	2.4	0.19	5.7	0.02	0.01	0.01	TOT 0.04

CASTLE METALS - KENT	
DATE REC'D <u>10-21-08</u>	CUST. _____
REC'D FROM <u>Kaiser</u>	CUST. P.O. _____
APPROVED BY <u>AM</u>	AMC S/O _____
	TR # <u>443773A7/443920A4</u>
WE HEREBY CERTIFY THAT THESE ARE CORRECT	
COPIES OF REPORTS NOW ON FILE AT A.M. CASTLE & CO.	
BY: <u>AM</u>	JAC: <u>U857</u>



**KAISER  
ALUMINUM****CERTIFIED TEST REPORT**

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

Serial Number  
4144547

Lot: 443920A4 Cast 186 Drop 10 Ingot 1

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	72.4 : 72.7 (499 : 501)	61.7 : 62.1 (425 : 428)	11.7 : 11.9

(ASTM E1004)

Conductivity %IACS :	41.2 Min	41.9 Max
(MS/M) :	23.9 Min	24.3 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.08	0.16	1.4	0.02	2.4	0.19	5.7	0.02	0.01	0.01	TOT 0.04

**ALLOY LIMITS**

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

**TEST NOTES**

Metal represented by this test report was immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

**CERTIFICATION**

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**

